Quarterly Report – Public Page

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Prepared for: *PHMSA-DOT, National Biodiesel Board, Steel tank Institute, DNV Research and Innovation*

Project Title: *Corrosion and Integrity Management of Biodiesel Pipelines*

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As the volume of domestic biodiesel produced increase the ability to effectively and efficiently transport the fuel becomes paramount. The obvious choice is via pipelines, specifically pre-existing petrodiesel infrastructure. Verification that wholesale transportation of biodiesel and biodiesel blends with not compromise the integrity of the materials systems involved is also of great importance. The objectives of this project are broken down by task and material type.

Task 1 - Corrosion Inhibition Performance – the objective of this task is to evaluate whether commonly used petrodiesel corrosion inhibitors will work as effectively if biodiesel or biodiesel blends are transported.

Task 2 - Integrity of Non-Ferrous Metallic System Components – the objective of this task is to identify the interaction between biodiesel fuels and Cu-containing alloys. It has been shown that Cu-alloys may cause gelation of fatty acids in biodiesel, so testing will be conducted to both monitor the degradation of the alloy as well as the oxidation of the fuel over time of exposure.

Task 3 - Integrity of Non-Metallic System Components – a highlighted area of importance is with non-metallic materials in the pipeline system. Specifically, this task with monitor the property evolution of specific elastomeric materials when exposed to different blends of biodiesel fuel.

Testing phases of this project are forthcoming in the following quarters. This first quarter has been dedicated to kickoff meetings, literature review and allocation of resources.